WHAT IS CLAIMED IS:

1. An isolated polynucleotide containing the following nucleotide sequence:
fchd531 (SEQ ID NO.:1),
fchd540 (SEQ ID NO.:2),
fchd545 (SEQ ID NO.:3),
fchd602 (SEQ ID NO.:4) or,
fchd605 (SEQ ID NO.:5).
or the nucleotide sequence of a gene or gene fragment contained in the following clone as deposited with the ATCC:
pFCHD531 (in ATCC Accession No. 69983),
pFCHD540 (in ATCC Accession No. 69984), or
fchd545 (in ATCC Accession No. 69974).

2. An isolated polynucleotide which hybridizes under stringent conditions to the nucleotide sequence of Claim 1 or its complement, or to the gene or gene fragment contained in the clone of Claim 1 as deposited with the ATCC.

3. An isolated polynucleotide which encodes an amino acid sequence encoded by the nucleotide sequence of Claim 1 or its complement, or encoded by the gene or gene fragment contained in the clone of Claim 1 as deposited with the ATCC.

4. A polynucleotide vector containing the nucleotide sequence of Claim 1, 2 or 3.

5. A polynucleotide expression vector containing the nucleotide sequence of Claim 1, 2 or 3 in operative association with a nucleotide regulatory element that controls expression of the nucleotide sequence in a host cell.

6. A genetically engineered host cell containing the polynucleotide of Claim 1, 2 or 3.

7. A genetically engineered host cell containing the polynucleotide of Claim 1, 2 or 3 in operative association with a nucleotide regulatory element that controls expression of the nucleotide sequence in the host cell.

8. A substantially pure gene product encoded by the polynucleotide of Claim 1, 2, or 3.

9. An antibody that immunospecifically binds the gene product of Claim 8.

10. A transgenic animal in which the polynucleotide of Claim 1, 2 or 3 is an expressed transgene contained in the genome of the animal.

11. A transgenic animal in which expression of genomic sequences encoding the gene product of Claim 8 is prevented or suppressed.

12. A method for diagnosing cardiovascular disease, comprising assaying, in a patient sample, the differential expression of a gene encoding the fchd531 protein, the fchd540 protein, the fchd545 protein, the fchd602 protein, or the fchd605 protein.

13. The method of Claim 12 in which the cardiovascular disease is atherosclerosis.

14. The method of Claim 12 in which the cardiovascular disease is ischemia/reperfusion.

15. The method of Claim 12 in which the cardiovascular disease is hypertension.

16. The method of Claim 12 in which the cardiovascular disease is restenosis.

17. The method of Claim 12 in which the gene is up-regulated.

18. The method of Claim 17 in which the gene encodes the fchd540, fchd602, or fchd605 protein.

19. The method of Claim 12 in which the gene is down-regulated.

20. The method of Claim 19 in which the gene encodes the fchd531 or fchd545 protein.

21. A method for treating cardiovascular disease, comprising administering a compound that modulates the expression of, or the activity of the encoded protein product of, the fchd531 gene, the fchd540 gene, the fchd545 gene, the fchd602 gene, or the fchd605 gene to a patient in need of such treatment.

22. The method of claim 21 in which the cardiovascular disease is atherosclerosis.

23. The method of claim 21 in which the cardiovascular disease is ischemia/reperfusion.

24. The method of claim 21 in which the cardiovascular disease is hypertension.

25. The method of claim 21 in which the cardiovascular disease is restenosis.

26. The method of Claim 21 in which the compound inhibits the expression of the gene or the activity of the protein product.

27. The method of Claim 26 in which the gene is the fchd540, fchd602, or fchd605 gene.

28. The method of Claim 27 in which the compound is an antisense or ribozyme molecule that blocks translation of the gene.

29. The method of Claim 27 in which the compound is complementary to the 5' region of the gene and blocks transcription via triple helix formation.

30. The method of Claim 26 in which the compound is an antibody that inhibits the activity of the protein product.

31. The method of Claim 21 in which the compound enhances the expression of the gene or the activity the protein product.

32. The method of Claim 31 in which the gene is the fchd531 or fchd545 gene.

33. A method for treating cardiovascular disease, comprising administering a polynucleotide encoding the fchd531 or fchd545 protein to a patient in need of such treatment.

34. A method for treating cardiovascular disease, comprising administering an effective amount of the fchd531 or fchd545 protein to a patient in need of such therapy.

35. A method for monitoring the efficacy of a compound in clinical trials for the treatment of cardiovascular disease, comprising assaying, in a patient sample, the differential expression of a gene encoding the fchd531 protein, the fchd540 protein, the fchd545 protein, the fchd602 protein, or the fchd605 protein.

36. The method of Claim 35 in which the cardiovascular disease is atherosclerosis.

37. The method of Claim 35 in which the cardiovascular disease is ischemia/reperfusion.

38. The method of Claim 35 in which the cardiovascular disease is hypertension.

39. The method of Claim 35 in which the cardiovascular disease is restenosis.

40. The method of Claim 35 in which the gene is up-regulated.

41. The method of Claim 40 in which the gene encodes the fchd540, fchd602, or fchd605 protein.

42. The method of Claim 35 in which the gene is down-regulated.

43. The method of Claim 42 in which the gene encodes the fchd531 or fchd545 protein.

44. A method for identifying a substance for treating cardiovascular disease comprising assaying the ability of the substance to modulate the expression of, or the activity of the encoded protein product of, the fchd531 gene, the fchd540 gene, the fchd545 gene, the fchd602 gene, or the fchd605 gene.

45. The method of Claim 44 in which the cardiovascular disease is atherosclerosis.

46. The method of Claim 44 in which the cardiovascular disease is ischemia/reperfusion.

47. The method of Claim 44 in which the cardiovascular disease is hypertension.

48. The method of Claim 44 in which the cardiovascular disease is restenosis.

49. The method of Claim 44 in which the modulation of expression of said gene is assayed by:

(a) exposing a sample of cells to a test substance;

(b) assaying the expression of said gene in the sample of cells; and

(c) comparing the expression level of the gene in the sample exposed to the substance to the expression level of the gene in a control sample of cells, in which a difference between the expression level of the gene in the sample exposed to the substance and the control indicates the modulation of expression of the gene.

50. The method of Claim 49 in which the gene is down-regulated by the test substance.

51. The method of Claim 50 in which the substance is an oligonucleotide complementary to the 5′ region of the gene and blocks transcription via triple helix formation.

52. The method of Claim 50 in which the substance is an antisense or ribozyme molecule that blocks translation of the gene.

53. The method of Claim 49 in which the gene is up-regulated by the test substance.

54. The method of claim 44 in which the substance is a small organic or inorganic molecule that modulates the activity of the protein product by binding to the protein product.

55. The method of claim 44 in which the substance is an antibody that modulates the activity of the protein product by binding to the protein product.

56. An assay for identifying a substance that binds to the fchd531 protein, the fchd540 protein, the fchd545 protein, the fchd602 protein, or the fchd605 protein, comprising:

(a) contacting a protein or peptide containing an amino acid sequence corresponding to the binding site of the protein with a test substance, under conditions and for a time sufficient to permit binding and formation of a complex between the protein or peptide and the test substance, and

(b) detecting the formation of a complex, in which the ability of the test substance to bind to the protein is indicated by the presence of the test substance in the complex.

57. An assay for identifying a substance that inhibits the interaction between the rchd534 protein and the fchd540 protein comprising:

(a) contacting a protein or peptide containing an amino acid sequence corresponding to the binding site of the rchd534 protein with a protein or peptide containing an amino acid sequence corresponding to the binding site of the fchd540 protein, under conditions and for a time sufficient to permit binding and formation of a complex, in the presence of a test substance, and

(b) detecting the formation of a complex, in which the ability of a test substance to inhibit the interaction between the rchd534 protein and fchd540 protein is indicated by a decrease in complex formation as compared to the amount of complex formed in the absence of the test substance.

58. An assay for identifying a substance that inhibits the interaction between two rchd534 protein molecules comprising:

(a) contacting a first protein or peptide containing an amino acid sequence corresponding to the binding site of the rchd534 protein with a second protein or peptide containing an amino acid sequence corresponding to the binding site of the rchd534 protein, under conditions and for

a time sufficient to permit binding and formation of a complex, in the presence of a test substance, and

(b) detecting the formation of a complex, in which the ability of a test substance to inhibit the interaction between two rchd534 protein molecules is indicated by a decrease in complex formation as compared to the amount of complex formed in the absence of the test substance.

59. An assay for identifying a substance that inhibits the interaction between the rchd534 protein and a protein member of the TGF-β signalling pathway comprising:

(a) contacting a protein or peptide containing an amino acid sequence corresponding to the binding site of the rchd534 protein with a protein or peptide containing an amino acid sequence corresponding to the binding site of the protein member of the TGF-β signalling pathway, under conditions and for a time sufficient to permit binding and formation of a complex, in the presence of a test substance, and

(b) detecting the formation of a complex, in which the ability of a test substance to inhibit the interaction between the rchd534 protein and the protein member of the TGF-β signalling pathway is indicated by a decrease in complex formation as compared to the amount of complex formed in the absence of the test substance.

60. The assay of Claim 59 wherein the protein member of the TGF-β signalling pathway is MADR1, MADR2, DPC4, activated TβR1, activated ActR1b, or activated ALK6.

61. An assay for identifying a substance that inhibits the interaction between the fchd540 protein and a protein member of the TGF-β signalling pathway comprising:

(a) contacting a protein or peptide containing an amino acid sequence corresponding to the binding site of the fchd540 protein with a protein or peptide containing an amino acid sequence corresponding to the binding site of the

protein member of the TGF-β signalling pathway, under conditions and for a time sufficient to permit binding and formation of a complex, in the presence of a test substance, and

(b) detecting the formation of a complex, in which the ability of the test substance to inhibit the interaction between the fchd540 protein and the protein member of the TGF-β signalling pathway is indicated by a decrease in complex formation as compared to the amount of complex formed in the absence of the test substance.

62. The assay of Claim 61 wherein the protein member of the TGF-β signalling pathway is MADR1, MADR2, DPC4, activated TβR1, activated ALK6, activated TSR1, activated ALK3, or activated ActR1β.

63. A method for treating cardiovascular disease comprising administering a compound that inhibits the interaction between the rchd534 protein and the fchd540 protein.

64. A method for treating cardiovascular disease comprising administering a compound that inhibits the interaction between two rchd534 protein molecules.

65. A method for treating cardiovascular disease comprising administering a compound that inhibits the interaction between the rchd534 protein and a protein member of the TGF-β signalling pathway.

66. The method of Claim 65 wherein the protein member of the TGF-β signalling pathway is MADR1, MADR2, DPC4, activated TβR1, activated ActR1b, or activated ALK6.

67. A method for treating cardiovascular disease comprising administering a compound that inhibits the

interaction between the fchd540 protein and a protein member of the TGF-β signalling pathway.

68. The method of Claim 67 wherein the protein member of the TGF-β signalling pathway is MADR1, MADR2, DPC4, activated TβR1, activated ALK6, activated TSR1, activated ALK3, or activated ActR1β.

69. A method for identifying a substance that enhances the TGF-β signalling response comprising:

(a) contacting a genetically engineered cell with a test substance, said cell comprising 1) a reporter gene in operative association with an inducible TGF-β regulatory element; 2) a recombinant gene encoding the rchd534 protein or a recombinant gene encoding the fchd540 protein; and 3) a recombinant gene encoding the MADR1 protein or a recombinant gene encoding the MADR2 protein; and

(b) detecting expression of said reporter gene in which ability of the test substance to enhance the TGF-β signalling response is indicated by an increase in expression of the reporter gene as compared to the amount of expression in the absence of the test substance.

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